

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

10/518129

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
31 December 2003 (31.12.2003)

PCT

(10) International Publication Number
WO 2004/000736 A3

(51) International Patent Classification⁷: **C02F 1/52**

(21) International Application Number:
PCT/IL2003/000521

(22) International Filing Date: 19 June 2003 (19.06.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
150341 20 June 2002 (20.06.2002) IL

(71) Applicant (for all designated States except US): **DEAD
SEA MEDICA CO, LTD.** [GB/GB]; Companies House,
New Bond Street, Cardiff, South Wales W1S1RR (GB).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **RONEN, Raziel**
[IL/IL]; 17 Levy Eshkol Street, Apt. 18, 69361 Tel-Aviv
(IL).

(74) Agents: **LUZZATO, Kfir** et al.; P.O. Box 5352, 84 152
Beer Sheva (IL).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,

CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC,
SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG,
US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the
claims and to be republished in the event of receipt of
amendments

(88) Date of publication of the international search report:
25 March 2004

For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: PROCESS AND COMPOSITIONS FOR THE PURIFICATION OF WATER

(57) Abstract: Process for water purification and for the separation of beneficial materials that are obtained from an aqueous so-
lution, comprising determining a turbidity index and adding to the water or to said solution a composition comprising one or more
natural or mixtures of natural substances, chosen from the group consisting of substances having a cationic molecular charge and
substances having an anionic molecular charge, in an amount determined as a function of said turbidity index, thereby, allowing
water purification and the aggregation of said beneficial materials.

WO 2004/000736 A3

INTERNATIONAL SEARCH REPORT

PCT/IT 03/00521

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 C02F1/52

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 C02F

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X A	US 5 938 970 A (REILLY JR PHILLIP B ET AL) 17 August 1999 (1999-08-17) claims	1-3,6, 13,14 15-19
X	EP 0 263 090 A (BOLIDEN AB) 6 April 1988 (1988-04-06) page 2, paragraph 3	1-3,6
X	US 5 855 789 A (SMITH PAUL K ET AL) 5 January 1999 (1999-01-05) claim 3	1-3,6
X	WO 01/028934 A (INCO LTD) 26 April 2001 (2001-04-26) claims	1,6

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

15 October 2003

Date of mailing of the international search report

03.02.04

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Serra, R

INTERNATIONAL SEARCH REPORT

International application No.
P 03/00521

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 24, 25
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
Claims 24 and 25 are not allowed under rule 6.2.a PCT and do not contain any searchable subject matter.
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-3, 6, 13-16

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-3 6 13-19

Composition comprising selenium and process using said composition.

2. claims: 4, 5, 7-12

Water purification compositions comprising additives and subjected to treatments.

3. claims: 20-23

Process comprising determining a turbidity index

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/IL 00521

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5938970	A	17-08-1999	US 6174445 B1	16-01-2001
EP 0263090	A	06-04-1988	AT 63299 T	15-05-1991
			AU 590119 B2	26-10-1989
			AU 7836387 A	14-04-1988
			BR 8705246 A	24-05-1988
			CA 1323944 C	02-11-1993
			CN 87106748 A ,B	13-04-1988
			DE 3769905 D1	13-06-1991
			DK 519887 A ,B,	04-04-1988
			EP 0263090 A1	06-04-1988
			FI 874104 A ,B,	04-04-1988
			GR 3002207 T3	30-12-1992
			NO 874155 A	05-04-1988
			SE 8604211 A	04-04-1988
			US 4780214 A	25-10-1988
US 5855789	A	05-01-1999	AU 739817 B2	18-10-2001
			AU 6880198 A	22-10-1998
			EP 0971779 A1	19-01-2000
			NZ 338104 A	27-07-2001
			WO 9843719 A1	08-10-1998
WO 0128934	A	26-04-2001	US 6177015 B1	23-01-2001
			AU 6974000 A	30-04-2001
			BR 0014796 A	11-06-2002
			WO 0128934 A1	26-04-2001
			CA 2386940 A1	26-04-2001
			CN 1379738 T	13-11-2002
			EP 1228005 A1	07-08-2002
			JP 2003512160 T	02-04-2003
			ZA 200201993 A	11-03-2003